

“A STUDY ON SERUM SODIUM AND POTASSIUM IN NEWLY DIAGNOSED PRIMARY HYPERTENSION”

ABSTRACT:

Background

Primary hypertension accounts for more than 90% of hypertension. It is the major risk factor for coronary, cerebral and peripheral vascular diseases. Etiology for primary hypertension is not known. The present study attempts to focus the serum sodium and potassium level among newly diagnosed primary hypertensives that were free from any other illnesses or under any medication and to correlate the electrolyte status with the blood pressure.

Methodology

Thirty five newly diagnosed primary hypertensive patients attending the Medicine OP or NCD OP of Thanjavur Medical College for the period of six months from March 2017 to august 2017 were studied. Fifteen healthy people were kept as controls. The control group comprises of normotensive individuals who were the attendants of the patients with primary hypertension living in the same environment other than their own siblings. Serum sodium and potassium levels were estimated (Ion selective electron method) in thirty five hypertensives (m-17,f-18: mean age – 53.1 ± 5.37) and fifteen controls (m – 5, f – 10; mean age – 51.5 ± 5.38). Efforts were also made to find out an association between body mass index with the systolic and diastolic blood pressure.

Conclusion

Mean serum sodium level was significantly elevated among hypertensives (147.94 ± 2.88) where as mean serum potassium level was significantly lower among them (3.55 ± 0.29) when compared to healthy controls (mean serum sodium level of 138.86 ± 3.44 and a mean serum potassium level of $4.67 \pm$. The blood pressure also correlated positively with serum sodium, body mass index where as negatively correlated with serum potassium. Changing lifestyles have modified the food habits, making people to consume food rich in sodium but low in potassium. As a result, genetically susceptible populations when exposed to high sodium coupled with low potassium in their diet, hypertension becomes overt.

KEYWORDS: Primary Hypertension, Body mass index, serum sodium, serum potassium